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Engineer Research and
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Condition Assessment of William Beaumont General Hospital Historic Buildings at Fort Bliss, Texas

Appendix A: Building Condition Matrix

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Foreword

This study was conducted for the Department of Environment, Fort Bliss, TX, under Military Interdepartmental Purchase Request (MIPR) 2042-96, "William Beaumont Army Medical Center Mitigation," dated 30 September 1996. The technical monitor was Daniel Delahaye, ATZC-DOE-C.

The work was performed by the Facilities Maintenance Branch (CF-F) of the Facilities Division (CF), Construction Engineering Research Laboratory (CERL). The CERL Principal Investigator was Thomas R. Napier. The technical editor was Gordon L. Cohen, Information Technology Laboratory – Champaign. Mark W. Slaughter is Chief, CEERD-CF-F, and L. Michael Golish is Chief, CEERD-CF. The Technical Director of the Facility Acquisition and Revitalization business area is Dr. Paul A. Howdyshell, CEERD-CV-ZT, and the Director of CERL is Dr. Alan W. Moore.

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This document is Appendix A of the report: *Condition Assessment of William Beaumont General Hospital Historic Buildings at Fort Bliss, Texas*, ERDC/CERL Technical Report 02-26.















This Appendix provides an “at-a-glance” display of the each building’s condition, described by major systems and components. The condition as a whole is represented, but not specific instances or requirements. Conditions are described as follows:





-  Indicates the system or its components are generally serviceable as is, but may require cleaning, reconditioning, or other routine re-commissioning tasks.
-  Indicates repair or minor repairs will be required. These may include the system as a whole, or some of its components within the building.
-  Indicates that extensive repair or rehabilitation will be required. This may include the system as a whole, or many of its components throughout the building.
-  Indicates that replacement of the system or components is appropriate, either because of deterioration or damage, or because it may be inappropriate in a rehabilitation context.

Note that the serviceability of a building system or component can vary according to the perspective from which it is evaluated. Performance of an item may be completely satisfactory in absolute terms. That is, it is functioning as intended or expected, and may even have been recently installed. However, in a rehabilitation context, a component may be inappropriate due to its appearance, or effect on the overall appearance of the building.

Therefore, two perspectives are provided. The “Serviceability” perspective represents the system’s or component’s condition in their current state. That is: (1) if the item performing as intended, (2) if repair or upgrade would be necessary, and (3) what is the extent of deficiency or damage and what level of repair or upgrade would be necessary to restore its performance. The “Rehabilitation” perspective considers the appropriateness of the existing system or component within a rehabilitation context, as well as its current serviceability or performance.

SI conversion factors		
1 in.	=	2.54 cm
1 ft	=	0.305 m
1 yd	=	0.9144 m
1 sq in.	=	6.452 cm ²
1 sq ft	=	0.093 m ²
1 sq yd	=	0.836 m ²
1 cu in.	=	16.39 cm ³
1 cu ft	=	0.028 m ³
1 cu yd	=	0.764 m ³
1 gal	=	3.78 L
1 lb	=	0.453 kg
1 kip	=	453 kg
1 psi	=	6.89 kPa
°F	=	(°C x 1.8) + 32
1 BTU	=	1.055056+e021 attjoules
1 psf	=	47.88026 pascals

7122, Bandstand	Current	Adaptive use	Description
	Serviceability	Design	
SUBSTRUCTURE			
Foundation			Repair spalled foundation wall surfaces
Slab on grade			Repair or replace floor slab
SUPERSTRUCTURE			
Load bearing walls & columns			Repair spalled column surfaces
Floor framing	N/A	N/A	
Roof framing			Replace deteriorated rafters
EXTERIOR CLOSURE			
Roofing			Replace roofing (possible ACM)
Walls	N/A	N/A	
Doors	N/A	N/A	
Windows	N/A	N/A	
INTERIOR CONSTRUCTION			
Partitions	N/A	N/A	
Doors	N/A	N/A	
Finishes			Refinish / replace deteriorated bead board ceiling
MECHANICAL			
Plumbing	N/A	N/A	
HVAC	N/A	N/A	
Fire protection	N/A	N/A	
ELECTRICAL			
Power & distribution	N/A		Install electrical power
Lighting	N/A		Install exterior & interior lighting
CONVEYING SYSTEMS			
Elevators / lifts	N/A	N/A	

-  Serviceable with cleaning or reconditioning
-  Some repair required
-  Major repair required
-  Replace

7151, Chapel	Adaptive use		Description
	Current Serviceability	/ Rehab Design	
SUBSTRUCTURE			
Foundation	<div><div></div></div>	<div><div></div></div>	
SUPERSTRUCTURE			
Load bearing walls & columns	<div><div></div></div>	<div><div></div></div>	
Floor framing	<div><div></div></div>	<div><div></div></div>	
Roof framing	<div><div></div></div>	<div><div></div></div>	
EXTERIOR CLOSURE			
Roofing	<div><div></div></div>	<div><div></div></div>	Replace w/ historically appropriate shingle style
Walls	<div><div></div></div>	<div><div></div></div>	Repair minor cracking; refinish
Doors	<div><div></div></div>	<div><div></div></div>	Replace entry. Rehabilitate / replace sacristy & boiler room doors
Windows	<div><div></div></div>	<div><div></div></div>	Repair / refinish lobby & sacristy windows Reinstall nave windows
INTERIOR CONSTRUCTION			
Partitions	<div><div></div></div>	<div><div></div></div>	Remove partitioning in choir loft
Doors	<div><div></div></div>	<div><div></div></div>	Repair / refinish interior doors
Finishes	<div><div></div></div>	<div><div></div></div>	Decontaminate all surfaces Refinish wall surfaces Refinish nave floor Replace other floor finishes Repair minor cracking / defects
MECHANICAL			
Plumbing	<div><div></div></div>	<div><div></div></div>	Add restroom facilities
HVAC	<div><div></div></div>	<div><div></div></div>	Replace heating / cooling systems
Fire protection	N/A	N/A	
ELECTRICAL			
Power & distribution	<div><div></div></div>	<div><div></div></div>	Upgrade to code
Lighting	<div><div></div></div>	<div><div></div></div>	Upgrade to code
CONVEYING SYSTEMS			
Elevators / lifts	N/A	N/A	








































- Serviceable with cleaning or reconditioning
- Some repair required
- Major repair required
- Replace





7152, Theater	Current Serviceability	Adaptive use / Rehab Design	Description
SUBSTRUCTURE			
Foundation	●	●	
Slab on grade	●	●	
SUPERSTRUCTURE			
Load bearing walls & columns	●	●	Replace columns at entry canopy
Floor framing	N/A	N/A	
Roof framing	●	●	
EXTERIOR CLOSURE			
Roofing	●	●	Replace w/ historically appropriate shingle style
Walls	●	●	Repair minor cracking; refinish
Doors	●	●	
Windows	●	●	Refinish windows at lobby & washroom areas
INTERIOR CONSTRUCTION			
Partitions	●	●	
Doors	●	●	
Finishes	●	●	
MECHANICAL			
Plumbing	●	●	
HVAC	●	●	
Fire protection	●	●	
ELECTRICAL			
Power & distribution	●	●	
Lighting	●	●	
CONVEYING SYSTEMS			
Elevators / lifts	N/A	N/A	
SITE			
Site improvements	●	●	Repair / replace stoop at southeast door

- Serviceable with cleaning or reconditioning
- Some repair required
- Major repair required
- Replace

7155, Gymnasium	Current Serviceability	Adaptive use / Rehab Design	Description
SUBSTRUCTURE			
Foundation	<div><div></div><div></div></div>	<div><div></div><div></div></div>	
Slab on grade	<div><div></div><div></div></div>	<div><div></div><div></div></div>	
SUPERSTRUCTURE			
Load bearing walls & columns	<div><div></div><div></div></div>	<div><div></div><div></div></div>	
Floor framing	<div><div></div><div></div></div>	<div><div></div><div></div></div>	
Roof framing	<div><div></div><div></div></div>	<div><div></div><div></div></div>	
EXTERIOR CLOSURE			
Roofing	<div><div></div></div>	<div><div></div></div>	Repair damaged roofing at south gable Replace w/ historically appropriate shingle style
Walls	<div><div></div></div>	<div><div></div></div>	Repair minor cracking; refinish
Doors	<div><div></div></div>	<div><div></div></div>	Replace w/ historically appropriate doors
Windows	<div><div></div></div>	<div><div></div></div>	Repair & refinish windows
INTERIOR CONSTRUCTION			
Partitions	<div><div></div></div>	<div><div></div></div>	
Doors	<div><div></div></div>	<div><div></div></div>	Repair / refinish doors; replace where missing
Finishes	<div><div></div></div>	<div><div></div></div>	Decontaminate all interior surfaces Repair NW corner of gym floor Refinish wall surfaces Replace other floor finishes Refinish ceiling surfaces
MECHANICAL			
Plumbing	<div><div></div></div>	<div><div></div></div>	Reconfigure plumbing for future occupancy
HVAC	<div><div></div></div>	<div><div></div></div>	Remove evaporative coolers from roof Remove boiler enclosure from east side Replace heating & cooling systems
Fire protection	N/A	N/A	
ELECTRICAL			
Power & distribution	<div><div></div></div>	<div><div></div></div>	Upgrade to code & future occupancy
Lighting	<div><div></div></div>	<div><div></div></div>	Upgrade to code & future occupancy
CONVEYING SYSTEMS			
Elevators / lifts	N/A	<div><div></div></div>	Add lifts for accessibility where required
SITE			
Grading / drainage	<div><div></div></div>	<div><div></div></div>	Regrade to drain away from west wall
Site improvements	<div><div></div></div>	<div><div></div></div>	Regrade; install wheelchair access at west door

- Serviceable with cleaning or reconditioning
- Some repair required
- Major repair required
- Replace

7157, Barracks	Current Serviceability	Adaptive use / Rehab Design	Description
SUBSTRUCTURE			
Foundation			Repair crack at south wall
SUPERSTRUCTURE			
Load bearing walls & columns			
Floor framing			Confirm loading capacity for future occupancy Repair / level framing under 1st & 2nd fl washrooms
Roof framing			Confirm integrity of framing at porch corners
Porch framing			Confirm integrity of framing at columns & stairs Repair cracking at porch slab southeast corner Add accessible entry to first floor
EXTERIOR CLOSURE			
Roofing			Replace roofing at porch w/ metal roofing Replace w/ historically appropriate shingle style
Walls			Repair minor cracking; refinish Close opening at evaporative cooler duct
Doors			Replace w/ historically appropriate doors
Windows			Repair / refinish windows; replace missing sashes Reinstall windows at 2nd floor east elevation
Porch			Remove 2nd floor porch closure Rehabilitate / replace porch railings & trim
INTERIOR CONSTRUCTION			
Partitions			Reconfigure per future occupant's requirements
Doors			Replace w/ historically appropriate doors Fire rated doors required at protected stairwells
Finishes			Repair / refinish wall & ceiling finishes Replace floor finishes as req'd for future occupant
MECHANICAL			
Plumbing			Reconfigure for future occupant
HVAC			Replace heating / cooling systems
Fire protection			Extend sprinkler to 2nd floor, attic, & crawlspace
ELECTRICAL			
Power & distribution			Upgrade to code & future occupancy
Lighting			Upgrade to code & future occupancy
CONVEYING SYSTEMS			
Elevators / lifts	N/A		Add elevator where required for future occupancy
SITE			
Site improvements			Install wheelchair access at northeast door

-  Serviceable with cleaning or reconditioning
-  Some repair required
-  Major repair required
-  Replace

7158, Barracks	Current Serviceability	Adaptive use / Rehab Design	Description
SUBSTRUCTURE			
Foundation	<div></div>	<div></div>	Repair crack at south wall
SUPERSTRUCTURE			
Load bearing walls & columns	<div></div>	<div></div>	Confirm loading capacity for future occupancy Repair / level framing at 1st & 2nd fl washrooms
Floor framing	<div></div>	<div></div>	
Roof framing	<div></div>	<div></div>	Confirm integrity of framing at porch corners
Porch framing	<div></div>	<div></div>	Confirm integrity of framing at columns & stairs Repair cracking at porch slab southeast corner Add accessible entry to first floor
EXTERIOR CLOSURE			
Roofing	<div></div>	<div></div>	Replace roofing at porch w/ metal roofing Replace w/ historically appropriate shingle style
Walls	<div></div>	<div></div>	Repair minor cracking; refinish Close opening at evaporative cooler duct
Doors	<div></div>	<div></div>	Replace w/ historically appropriate doors
Windows	<div></div>	<div></div>	Repair / refinish windows; replace sashes as req'd
Porch	<div></div>	<div></div>	Remove 2nd floor porch closure Rehabilitate / replace porch railings & trim
INTERIOR CONSTRUCTION			
Partitions	<div></div>	<div></div>	Reconfigure per future occupant's requirements
Doors	<div></div>	<div></div>	Replace w/ historically appropriate doors Fire rated doors required at protected stairwells
Finishes	<div></div>	<div></div>	Repair / refinish wall & ceiling finishes Replace floor finishes as req'd for future occupant
MECHANICAL			
Plumbing	<div></div>	<div></div>	Reconfigure for future occupant
HVAC	<div></div>	<div></div>	Replace heating / cooling systems
Fire protection	<div></div>	<div></div>	Install sprinkler system; include attic & crawl space
ELECTRICAL			
Power & distribution	<div></div>	<div></div>	Upgrade to code & future occupancy
Lighting	<div></div>	<div></div>	Upgrade to code & future occupancy
CONVEYING SYSTEMS			
Elevators / lifts	<div></div>	<div></div>	Add elevator / lift where required
SITE			
Site improvements	<div></div>	<div></div>	Install wheelchair access at northeast door

- Serviceable with cleaning or reconditioning
- Some repair required
- Major repair required
- Replace





7159, Barracks	Current Serviceability	Adaptive use / Rehab Design	Description
SUBSTRUCTURE			
Foundation	<div></div>	<div></div>	Repair crack at south wall
SUPERSTRUCTURE			
Load bearing walls & columns	<div></div>	<div></div>	Confirm loading capacity for future occupancy Repair / level framing under 1st & 2nd fl washrooms Repair / level framing at 1st & 2nd fl south end Confirm integrity of framing at porch corners Confirm integrity of framing at columns & stairs Repair cracking at porch slab corners Add accessible entry to first floor
Floor framing	<div></div>	<div></div>	
Roof framing	<div></div>	<div></div>	
Porch framing	<div></div>	<div></div>	
EXTERIOR CLOSURE			
Roofing	<div></div>	<div></div>	Replace roofing at porch w/ metal roofing Replace w/ historically appropriate shingle style
Walls	<div></div>	<div></div>	Repair minor cracking; refinish Close opening at evaporative cooler duct
Doors	<div></div>	<div></div>	Replace w/ historically appropriate doors
Windows	<div></div>	<div></div>	Reinstall windows at 2nd floor east elevation Repair / refinish windows; replace sashes as req'd
Porch	<div></div>	<div></div>	Remove 2nd floor porch closure Rehabilitate / replace porch railings & trim
INTERIOR CONSTRUCTION			
Partitions	<div></div>	<div></div>	Reconfigure per future occupant's requirements
Doors	<div></div>	<div></div>	Replace w/ historically appropriate doors Fire rated doors required at protected stairwells
Finishes	<div></div>	<div></div>	Repair / refinish wall & ceiling finishes Replace floor finishes as req'd for future occupant
MECHANICAL			
Plumbing	<div></div>	<div></div>	Reconfigure for future occupant
HVAC	<div></div>	<div></div>	Remove boiler enclosure at north end Replace heating / cooling systems
Fire protection	<div></div>	<div></div>	Extend sprinkler system to attic & crawlspace
ELECTRICAL			
Power & distribution	<div></div>	<div></div>	Upgrade to code & future occupancy
Lighting	<div></div>	<div></div>	Upgrade to code & future occupancy
CONVEYING SYSTEMS			
Elevators / lifts	<div></div>	<div></div>	Add elevator / lift where required

- Serviceable with cleaning or reconditioning
- Some repair required
- Major repair required
- Replace

7166, BOQ	Current Serviceability	Adaptive use / Rehab Design	Description
SUBSTRUCTURE			
Foundation	●	●	
Slab on grade	●	●	
SUPERSTRUCTURE			
Load bearing walls & columns	●	●	
Floor framing	●	●	
Roof framing	●	●	
EXTERIOR CLOSURE			
Roofing	●	●	Repair; or replace w/ appropriate style shingle
Walls	●	●	Repair minor cracking; refinish
Doors	●	●	Replace south basement door Repair main entry door
Windows	●	●	
INTERIOR CONSTRUCTION			
Partitions	●	●	
Doors	●	●	
Finishes	●	●	Repair / refinish wall & ceiling surfaces Clean or replace carpet
MECHANICAL			
Plumbing	●	●	
HVAC	●	●	Replace heating / cooling systems
Fire protection	●	●	
ELECTRICAL			
Power & distribution	●	●	
Lighting	●	●	
CONVEYING SYSTEMS			
Elevators / lifts	N/A	N/A	
SITE			
Grading / drainage	●	●	Regrade to divert runoff at west wall Regrade to prevent intrusion at south b'smt. door

- Serviceable with cleaning or reconditioning
- Some repair required
- Major repair required
- Replace

7167, Conference Center	Current Serviceability	Adaptive use / Rehab Design	Rehabilitat'n Design
SUBSTRUCTURE			
Foundation	<div></div>	<div></div>	
Slab on grade	<div></div>	<div></div>	
SUPERSTRUCTURE			
Load bearing walls & columns	<div></div>	<div></div>	
Floor framing	<div></div>	<div></div>	Repair cut joists at utility room
Roof framing	<div></div>	<div></div>	
EXTERIOR CLOSURE			
Roofing	<div></div>	<div></div>	Repair; or replace w/ appropriate style shingle
Walls	<div></div>	<div></div>	Repair minor cracking; refinish
Doors	<div></div>	<div></div>	
Windows	<div></div>	<div></div>	
Porch	<div></div>	<div></div>	Refinish porch railings & trim
INTERIOR CONSTRUCTION			
Partitions	<div></div>	<div></div>	
Doors	<div></div>	<div></div>	
Finishes	<div></div>	<div></div>	
MECHANICAL			
Plumbing	<div></div>	<div></div>	
HVAC	<div></div>	<div></div>	Remove evaporative cooler from roof
			Replace cooling system
Fire protection	<div></div>	<div></div>	
ELECTRICAL			
Power & distribution	<div></div>	<div></div>	
Lighting	<div></div>	<div></div>	
CONVEYING SYSTEMS			
Elevators / lifts	<div></div>	<div></div>	
SITEWORK			
Grading / drainage	<div></div>	<div></div>	
Site improvements	<div></div>	<div></div>	Repair or replace ext. stairs & wheelchair ramp

-  Serviceable with cleaning or reconditioning
-  Some repair required
-  Major repair required
-  Replace